AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-22   (Cancelled)

23.   (Previously Presented) In a tuning system for tuning to channels of a plurality of different broadcast types including digital broadcasts, a method of efficiently tuning to a channel of one of the broadcast types, the method comprising the following:

an act of the tuning system storing a plurality of service records in a plurality of service spaces of a memory accessible by the tuning system, wherein each service record contains tuning information for tuning to a channel of one of the plurality of broadcast types, when one or more digital data streams are broadcast to the tuning system over one or more digital channels, an act of extracting additional tuning information from the one or more digital data streams, wherein the additional tuning information is necessary for subsequent tuning to the one or more corresponding digital channels; an act of storing the additional tuning information in one or more of the service records that correspond to one or more digital channels over which the digital data streams were broadcast;

an act of the tuning system categorizing the plurality of service records into a plurality of service spaces according to broadcast type, such that each service space corresponds to a different broadcast type;

upon receiving a user selection of a service space, identifying a correct one of a plurality of tuners to use in tuning to one or more channels that are identified by one or more service records in the selected service space;

an act of the tuning system receiving a channel selection corresponding to a particular one of the service records in the selected service space;

an act of the tuning system accessing the particular one of the service records from the memory, the particular one of the service records including the extracted additional tuning information; and

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an act of the tuning system tuning to the selected channel using the tuning information and the extracted additional tuning information, wherein the extracted additional tuning information enables the tuning system to automatically tune into the selected channel without having to re-extract the additional tuning information that would otherwise be required to tune into the selected channel.

24.   (Original) The method according to Claim 23, wherein the act of the tuning system storing comprises the following:

an act of the tuning system storing information that identifies a tuner in each of the plurality of service records in the memory; and

an act of the tuning system storing information that identifies a channel in each of the plurality of service records in the memory.

25.   (Original) The method according to Claim 23, wherein the act of the tuning system storing comprises the following:

an act of the tuning system accumulating the plurality of service records in the memory.

26.   (Original) The method according to Claim 25, wherein the act of the tuning system accumulating the plurality of service records comprises the following:

an act of at least one tuner of the tuning system monitoring at least one broadcast type to determine available channels in the at least one broadcast type.

27.   (Original) The method according to Claim 23, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces comprises the following:

for each of the plurality of service records, an act of the tuning system storing a pointer associated with the service record in at least one of the service spaces.

28.   (Previously Presented) The method according to Claim 23, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces further comprises the following:

an act of the tuning system creating a favorites service space for including pointers to service records that correspond to service records included in at least one other service space corresponding to a particular broadcast type, and such that a viewer can select the channel from the favorites service space.

29 – 39 (Cancelled)

40.   (Previously Presented) A computer program product for use in a tuning system for tuning to channels of a plurality of different broadcast types including digital broadcasts, the computer program product comprising computer-readable media having computer-executable instructions for implementing a method of efficiently tuning to a channel of one of the broadcast types, the method comprising the following:

an act of the tuning system storing a plurality of service records in a plurality of service spaces of a memory accessible by the tuning system, wherein each service record contains tuning information for tuning to a channel of one of the plurality of broadcast types, when one or more digital data streams are broadcast to the tuning system over one or more digital channels, an act of extracting additional tuning information from the one or more digital data streams, wherein the additional tuning information is necessary for subsequent tuning to the one or more corresponding digital channels; an act of storing the additional tuning information in one or more of the service records that correspond to one or more digital channels over which the digital data streams were broadcast;

an act of the tuning system categorizing the plurality of service records into a plurality of service spaces according to broadcast type, such that each service space corresponds to a different broadcast type;

upon receiving a user selection of a service space, identifying a correct one of a plurality of tuners to use in tuning to one or more channels that are identified by one or more service records in the selected service space;

an act of the tuning system receiving a channel selection corresponding to a particular one of the service records in the selected service space;

an act of the tuning system accessing the particular one of the service records from the memory, the particular one of the service records including the extracted additional tuning information; and

an act of the tuning system tuning to the selected channel using the tuning information and the extracted additional tuning information, wherein the extracted additional tuning information enables the tuning system to automatically tune into the

selected channel without having to re-extract the additional tuning information that would otherwise be required to tune into the selected channel.

41.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system storing comprises the following:

an act of the tuning system storing information that identifies a tuner in each of the plurality of service records in the memory; and

an act of the tuning system storing information that identifies a channel in each of the plurality of service records in the memory.

42.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system storing comprises the following:

an act of the tuning system accumulating the plurality of service records in the memory.

43.   (Previously Presented) A computer program product as recited in Claim 42, wherein the act of the tuning system accumulating the plurality of service records comprises the following:

an act of at least one tuner of the tuning system monitoring at least one broadcast type to determine available channels in the at least one broadcast type.

44.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces comprises the following:

for each of the plurality of service records, an act of the tuning system storing a pointer associated with the service record in at least one of the service spaces.

45.   (Previously Presented) A computer program product as recited in Claim 40, wherein the act of the tuning system categorizing the plurality of service records into a plurality of service spaces further comprises the following:

        an act of the tuning system creating a favorites service space for including pointers to service records that correspond to service records included in at least one other service space corresponding to a particular broadcast type, and such that a viewer can select the channel from the favorites service space.

46 – 50   (Cancelled)

51.   (Previously Presented)A computer program product as recited in claim 40, wherein the additional tuning information includes information obtained from the program association table portion of the one or more digital data streams.

52.   (Cancelled)

53.   (Previously Presented)   A method as recited in claim 23, wherein the user selection of the service space is made from a graphical user interface.

54.   (Previously Presented)   A computer program product as recited in claim 40, wherein the user selection of the service space is made from a graphical user interface.

55.   (Previously Presented)   A method as recited in claim 23, wherein the channel selection is made from a graphical user interface.

56.   (Previously Presented)   A computer program product as recited in claim 40, wherein the channel selection is made from a graphical user interface.

57.   (Previously Presented) A method as recited in claim 23, wherein the additional tuning information includes at least one of a program number, program identifier, and a bit stream type.

58.   (Previously Presented) A computer program product as recited in claim 40, wherein the additional tuning information includes at least one of a program number, program identifier, and a bit stream type.

59.   (New) In a tuning system for tuning to channels of a plurality of different broadcast types, a method of efficiently tuning to a channel of one of the broadcast types without a user having to designate the broadcast type, the method comprising the following:

a step for storing a plurality of service records, each service record containing tuning information for tuning to a channel of one of the plurality of broadcast types;

a step for categorizing the plurality of service records into a plurality of service spaces;

a step for receiving a selection of one of the service records in one of the service spaces; and

a step for tuning to a channel corresponding to the selected service record using the tuning information provided in the service record.

60.   (New) The method according to Claim 59, wherein the step for storing comprises the following:

an act of storing information that identifies a tuner; and

an act of storing information that identifies a channel tunable by the tuner.

61.   (New) The method according to Claim 59, wherein the step for storing comprises the following:

a step for accumulating the plurality of service records.

62.   (New) The method according to Claim 61, wherein the step for accumulating the plurality of service records comprises the following:

an act of a tuner monitoring a broadcast to determine available channels.

63.   (New) The method according to Claim 62, wherein the step for accumulating the plurality of service records further comprises the following:

for each of the available channels, an act of creating a service record for the available channel if a service record does not already exist for the available channel.

64.   (New) The method according to Claim 63, wherein the step for accumulating the plurality of service records further comprises the following:

an act of including information that the tuner used to tune to the available channel in the service record.

65.   (New) The method according to Claim 61, wherein the step of accumulating the plurality of service records comprises:

a specific act of providing a loader for each tuner in the tuning system;

a specific act of using the loader to monitor the channels tuned to by the corresponding tuner for a new channel;

a specific act of a master service control creating a new service record corresponding to the new channel; and

a specific act of including the tuning parameters used to tune to the new channel in the new service record.

66.   (New) The method according to Claim 59, wherein the step for categorizing the plurality of service records into a plurality of service spaces comprises the following:

for each of the plurality of service records, an act of storing a pointer associated with the service record in at least one of the service spaces.

67.   (New) The method according to Claim 59, wherein the step for categorizing the plurality of service records into a plurality of service spaces comprises the following:

an act of creating a master service space that includes pointers to all of the plurality of service records.

68.   (New) The method according to Claim 59, wherein the step for categorizing the plurality of service records into a plurality of service spaces comprises the following:

an act of categorizing at least some of the plurality of service records into service spaces that are categorized according to content.

69.   (New) The method according to Claim 59, wherein the step for categorizing the plurality of service records into a plurality of service spaces comprises the following:

an act of creating a favorites service space for including service records that correspond to desirable channels.

70.   (New) The method according to Claim 59, wherein the step for tuning to a channel corresponding to the selected service record using the tuning information provided in the service record comprises the following:

an act of the tuning system tuning to a selected digital channel corresponding to the selected service record using the tuning information provided in the service record.

71.   (New) In a tuning system for tuning to channels of a plurality of different broadcast types, a computer program product for implementing a method of efficiently tuning to a channel of one of the broadcast types without having to designate the broadcast type, the computer program product comprising:

a computer readable medium for providing computer program code means utilized to implement said method; and

wherein said computer program code means is comprised of executable code for implementing the following:

a step for storing a plurality of service records, each service record containing tuning information for tuning to a channel of one of the plurality of broadcast types;

a step for categorizing the plurality of service records into a plurality of service spaces;

a step for receiving a selection of one of the service records in one of the service spaces; and

a step for tuning to a channel corresponding to the selected service record using the tuning information provided in the service record.

72.   (New) The computer program product according to Claim 71, wherein the executable code for implementing the step for storing further comprises executable code for implementing the following:

an act of the tuning system storing information that identifies a tuner; and

an act of the tuning system storing information that identifies a channel tunable by the tuner.

73.   (New) The computer program product according to Claim 71, wherein the executable code for implementing the step for storing further comprises the executable code for implementing the following:

a step for accumulating the plurality of service records.

74.   (New) The computer program product according to Claim 72, wherein the executable code for implementing the step for accumulating the plurality of service records comprises executable code for implementing the following:

an act of a tuner monitoring a broadcast to determine available channels;

for each available channel, an act of creating a service record for the available channel if a service record does not already exist for the available channel; and

for each available channel, an act of including information that the tuner used to tune to the available channel in the service record.

75.   (New) A tuning system for tuning to channels of a plurality of different broadcast types without requiring a user to identify the broadcast type, the tuning device comprising:

a first tuner for tuning to channels of a first broadcast type;

a second tuner for tuning to channels of a second broadcast type;

a memory;

a controller coupled to a memory, wherein the controller is configured to store a plurality of service records and service spaces in the memory, each service record containing tuning information for tuning to a channel of one of the plurality of broadcast types, each service space listing at least one of the plurality of service record.

76.   (New) The tuning system according to Claim 75, wherein each of the plurality of service spaces contains a pointer to at least one of the plurality of service records.

77.   (New) The tuning system according to Claim 76, wherein at least one of the plurality of service spaces contains pointers to a service record containing information for tuning to a channel of the first broadcast type and a service record containing information for tuning to a channel of the second broadcast type.

78.   (New) The tuning system according to Claim 75, further comprising the following:

a means for receiving a plurality of different broadcast types.

79.   (New) In a tuning system for tuning to channels of a plurality of different broadcast types, a computer program product for implementing a method of efficiently tuning to a channel of one of the broadcast types without having to designate the broadcast type, the computer program product comprising:

a computer readable medium for providing computer program code means utilized to implement said method; and

wherein said computer program code means is comprised of executable code for implementing the following:

an act of the tuning system storing a plurality of service records in a memory accessible by the tuning system, wherein each service record contains tuning information for tuning to a channel of one of the plurality of broadcast types;

an act of the tuning system categorizing the plurality of service records into a plurality of service spaces;

an act of the tuning system receiving a channel selection from an input device communicatively coupled to the tuning system, wherein the selected channel corresponds to one of the service records in one of the service spaces;

an act of the tuning system accessing the selected service record from the memory; and

an act of the tuning system tuning to the selected channel using the tuning information of the accessed service record.

80.   (New) The computer program product according to Claim 79, wherein the executable code for implementing the act of the tuning system storing comprises executable code for implementing the following:

an act of the tuning system storing information that identifies a tuner in the memory; and

an act of the tuning system storing information that identifies a channel in the memory.

81.   (New) The computer program product according to Claim 79, wherein the executable code for implementing the act of the tuning system storing further comprises executable code for implementing the following:

an act of the tuning system accumulating the plurality of service records.

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PAGE 21/23 * RCVD AT 8/16/2004 4:40:51 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/5 * DNIS:8729306 * CSID:8013281707 * DURATION (mm-ss):05-40

82.   (New) A method of creating a service record in a tuning system, the method comprising the following steps:

receiving tuning information regarding an available channel over a broadcast;

creating a service record for the available channel; and

including the tuning information in the service record.

83.   (New) The method according to Claim 84, wherein the broadcast includes information regarding available channels corresponding to a plurality of broadcast types.